TETRA TECH

November 25, 2008

Cheryl A. Robinson, P.E.
Air Quality Permitting Engineer
Idaho Department of Environmental Quality
1410 North Hilton
Boise, ID 83706-1255

Re: ***K & T Steel Corporation Permit to Construct Application for Idaho DEQ Air Quality Program***

Dear Ms. Robinson:

We are pleased to submit the draft permit to construct application for K & T Steel Corporation with all application files included on the enclosed CD. We are also sending a check for $1,000.00 made payable to the Idaho Department of Environmental Quality.

Please contact John Neale at (208) 733-2554 or myself at (775) 333-8455 if you have questions about this application. We look forward to working with you to complete the air permit.

Sincerely,

Sandra Carroll

Sandra L. Carroll, Ph.D.
Senior Toxicologist
Tetra Tech, Inc.
639 Isbell Road, Suite 390
Reno, NV 89509

Enclosure

K & T STEEL CORP.

Air Quality Permit to Construct Application

Prepared for:

Idaho Department of Environmental Quality
Air Quality Division
1410 N. Hilton
Boise, Idaho 83706

Prepared by:

Tetra Tech Inc.
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Boise, Idaho 83706

October 2008

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1.0 INTRODUCTION

This document presents technical and regulatory compliance information in support of an Idaho Department of Environmental Quality (IDEQ) Permit to Construct (PTC) Application for the K & T Steel Corp. (K & T Steel) facility in Twin Falls, Twin Falls County, Idaho. Twin Falls County is in attainment with the National Ambient Air Quality Standards (NAAQS) for all criteria pollutants. The K & T Steel facility will be a minor source of criteria pollutants and hazardous air pollutants (HAPs).

This document contains the following sections that will serve to meet the IDEQ PTC Application requirements provided in the Idaho Administrative Procedures Act (IDAPA) 58.01.01.200-228. Section 2.0 provides facility information. Section 3.0 presents a process description and identifies emission units. Section 4.0 provides a summary of projected and potential-to-emit (PTE) emissions from the facility. Section 5.0 discusses the Class II area air quality impact analysis. Modeling was conducted to demonstrate compliance with the NAAQS and Idaho toxic air pollutant (TAP) standards. Section 6.0 addresses excess emissions. Section 7.0 provides information on the Compliance Certification Plan, and references are provided in Section 8.0. IDEQ PTC forms, Material Safety Data Sheets (MSDS), emission calculations, modeling files, and other supporting documentation are provided in Appendices A through F.

2.0 FACILITY INFORMATION

The K & T Steel facility is located at 322 Diamond Avenue West in Twin Falls, Idaho. The Twin Falls facility (SIC Code 3441) engages in rebar fabrication, fabrication of structural steel shapes, and the manufacture of steel tanks for above-ground storage. Normal operation at K & T Steel consists of two 8-hour shifts per day, six days per week.

The K & T Steel facility is composed of six major buildings: the Main Office Building; the Manufacturing Shop; the former Plasteel Coating Building; the Paint Building; the Sand Blast Building; and a material storage building. The former Plasteel Coating Building is not being used by K & T Steel. K & T Steel no longer conducts styrene-based resin coating of steel tanks, which had occurred in the Plasteel Coating Building. The former Plasteel Coating Building is not used in any other manufacturing processes. Therefore, emissions from the former Plasteel Coating Building are not included in this PTC application. Though not anticipated, if K & T Steel resumes operations in the former Plasteel Coating Building, K & T Steel will apply for a permit modification to include these emissions.

Figure 2-1 shows a plot plan of the facility and the property boundaries. A site location map is shown in Figure 2-2. The facility is generally located at Universal Transverse Mercator (UTM) coordinates 706,500 meters (m) east and 4,713,300 m north [North American Datum (NAD) 83].

SOUTH PARK AVENUE

ATLANTIC STREET

MATERIAL RECEIVING YARD
RAW/UNFINISHED PRODUCT
(UNPAVED)

MATERIAL STORAGE YARD
FINISHED PRODUCT
(UNPAVED)

RAILROAD SPUR

OVERHEAD CRANE

121'-9"

MANUFACTURING SHOP

139'

STACK

92'

52'

MAIN OFFICE BUILDING

STACK

10'

46'-8"

13'-4"

52'-9"

NEW PAINT
BUILDING

68'

54'

STACK

15'

51'-9"

31'-10¾"

PLASTEEL
COATING
BUILDING

40'

SANDBLAST
BUILDING

ASPHALT PAVED
PARKING AREA

UNDERGROUND
STORAGE TANK

15'

DIAMOND AVENUE

MATERIAL STORAGE
BUILDING

STORAGE CONTAINER

LEGEND

PROPERTY BOUNDARY LINE

FENCE LINE

N

40' 0 40' 80'

SCALE: 1" = 80'

K & T STEEL CORPORATION
TWIN FALLS, IDAHO

FIGURE 2-1

FACILITY PLOT PLAN

Tetra Tech EM Inc.

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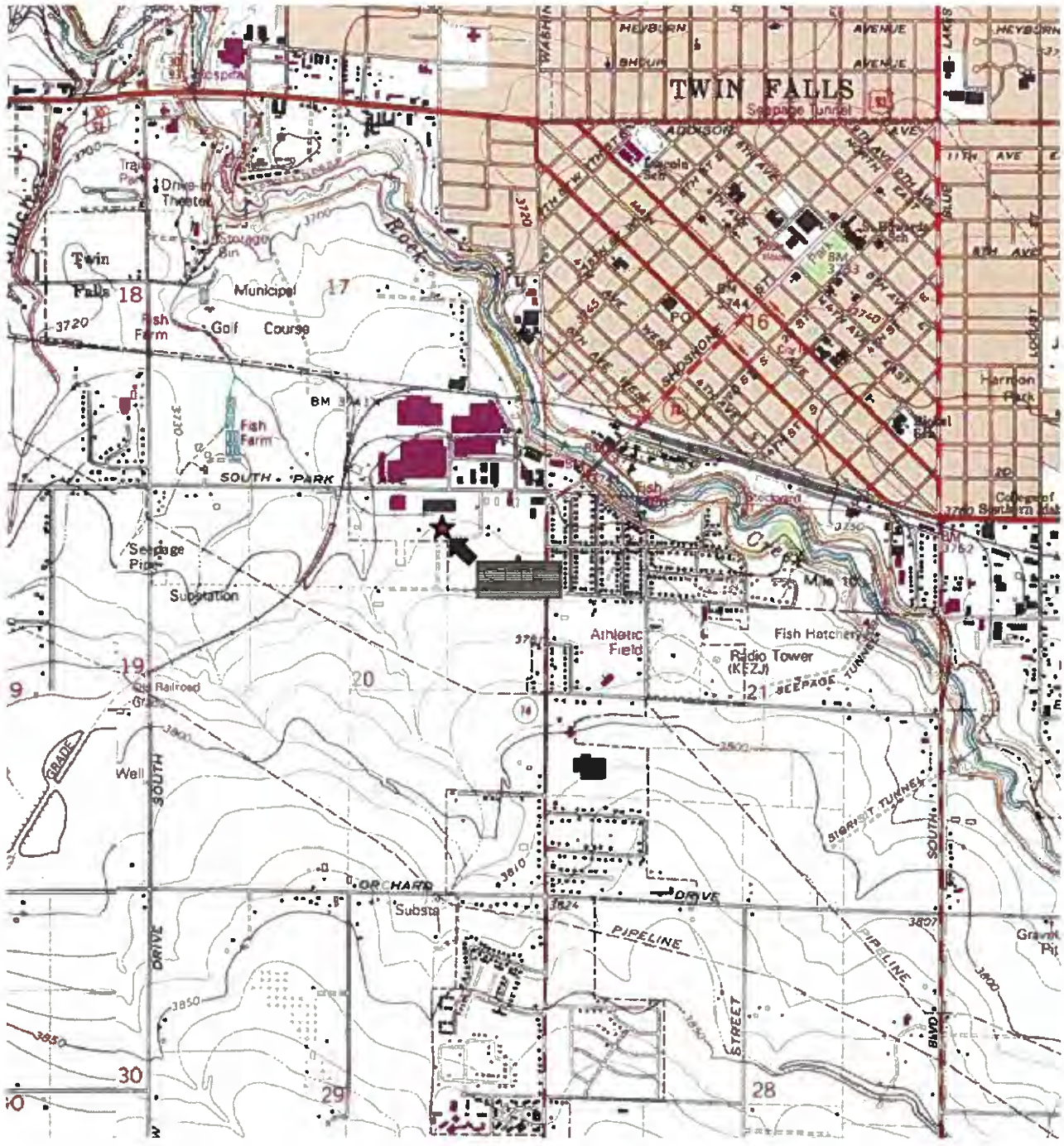

LEGEND

★ K & T STEEL FACILITY

SOURCE:
USGS 7.5 MINUTE QUADRANGLE
TWIN FALLS, IDAHO
1979 PHOTOREVISED 1992

N

2000 0 2000

SCALE: 1" = 2000'

K & T STEEL

FIGURE 2-2

FACILITY LOCATION MAP

Tetra Tech EM Inc.

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3.0 PROCESS DESCRIPTION

K & T Steel has three independent manufacturing operations at its facility: rebar; structural steel; and tank fabrication. The annual production capacity for the rebar process is 3,000 tons per year (ton/yr). The annual production capacity for the structural steel process is 3,000 ton/yr. The annual storage capacity for all fabricated tanks is 1,500,000 gallons per year (gal/yr).

3.1 REBAR OPERATION

The rebar operation is carried out in the Manufacturing Shop, where rebar is mechanically chopped into sections of different lengths and then bent. No air emissions result from this operation.

3.2 STRUCTURAL STEEL OPERATION

The structural steel process is the major operation conducted at the facility. Structural steel operations are completely contained in the Manufacturing Shop. In this operation, a variety of structural shapes are made from the wide selection of steel shape base types that K & T Steel stocks. Some cutting and welding of steel occurs; the emissions occur within the building. No exhaust gases are hooded or ducted through a stack to the outside air. Structural steel is painted in the Paint Building, which is discussed in Section 3.3.3.

3.3 TANK FABRICATION OPERATION

K & T Steel manufactures tanks from 500 to 30,000 gallons in capacity. Most of these tanks are between 10,000 and 20,000 gallons in capacity. The tank fabrication process begins in the Manufacturing Shop and continues in the Sand Blast Building and Paint Building.

3.3.1 Manufacturing Shop

The manufacturing process begins in the Manufacturing Shop where steel plates are rolled into cylindrical shapes and welded together. The tank ends or "heads" are cut and welded here also. Fittings are added to each tank, and the welds are checked by air pressure testing. A maximum of 50,000 pounds per year (lb/yr) of electrodes are consumed annually. Welding emissions are not captured with hooding or special ventilation. Air in this building is heated by fifteen (15) natural gas-fired space heaters with heat inputs of 0.040 million British thermal units per hour (mmBtu/hr) each.

3.3.2 Sand Blast Building

After fabrication, some tanks are sand-, or grit-, blasted with a fine steel material in the Sand Blast Building. Some structural steel is grit-blasted also. A maximum of 25 tanks are blasted per year. Grit blasting at the facility occurs 5 hours per day (hrs/day) on average. Maximum grit usage is 25 pounds per hour (lb/hr) and 30,000 lb/yr.

The Sand Blast Building is completely enclosed and has an exhaust system and a wet scrubber to reduce dust emissions. Manufacturer's information on the scrubber is provided in Appendix C. Emissions from the grit blasting operation are vented through a horizontal stack located near the top of the building. Specifications on the exhaust flow rate were not available; the flow rate is estimated to be 10,000 actual cubic feet per minute (ACFM), based on K & T Steel's best engineering judgment.

3.3.3 Paint Building

The final step in the manufacturing process consists of painting the structural steel or tanks using primers, enamels, epoxies, or other types of coatings. A maximum of 10,500 gal/yr of paints, epoxies, primers, solvents, and other types of coatings are used in this building. The MSDS for these coatings are provided in Appendix B. Paint spraying is conducted for a maximum of 6 hrs/day. The maximum paint spray rate is 50 gallons per day (gal/day). The maximum spray rate is possible for only a limited period because of the time required to process the steel being painted; thus, most of the processing consists of moving the steel in and out of the Paint Building, turning the steel over to expose the uncoated areas, and waiting for the coating to dry.

Painting takes place in a large, enclosed, free-standing paint booth that has an exhaust system with mat-type particulate filters. Manufacturer's information on these filters is provided in Appendix C. Exhaust gas fumes are vented via two vertical stacks, each with an estimated air flow of 10,000 ACFM, based on K & T Steel's best engineering judgment. Air in the Paint Building is heated by one (1) 1.375-mmBtu/hr natural gas-fired heater.

3.3.4 Tank Coating

A small amount of painting is conducted outside of the Paint Building. This process involves coating a small number of tanks with black asphalt. The coating is applied with a roller, not a sprayer. A

maximum of 200 gallons of this coating is used annually. The coating of these tanks is considered a fugitive emissions source. An MSDS for this coating is provided in Appendix B.

4.0 PROJECT AND POTENTIAL-TO-EMIT EMISSIONS

This section presents emissions data for criteria pollutants, HAPs, and TAPs. Emissions were calculated for the following processes:

- Welding (Manufacturing Shop)
- Grit Blasting (Sand Blast Building)
- Painting (Paint Building)
- Tank Coating (Outside the Paint Building)
- Space Heaters (Manufacturing Shop and Paint Building)

The K & T Steel facility is currently operating. According to IDEQ, K & T Steel is subject to developing a PTE scenario to determine if emissions trigger Title V or synthetic minor permitting requirements. The maximum projected paint usage at the K & T Steel facility is 50 gal/day and 10,500gal/yr. The maximum daily usage rate of 50 gal/day is based on painting continuously for 6 hours; the hours of painting are limited by the process, as discussed in Section 3.3.3. Hourly emissions resulting from this paint spray rate therefore represent hourly PTE. Without any permit limitations, K & T Steel could theoretically operate at this capacity for 365 days per year (days/yr). Thus the annual PTE estimate for criteria pollutants and HAPs is based on paint usage of 18,250 gal/yr (50 gal/day, 365 days/yr). Dividing the maximum theoretical paint usage (18,250 gal/yr) by the maximum projected annual paint usage (10,500 gal/yr) results in a scaling factor of 1.74. This scaling factor has been used to calculate annual PTE emissions.

Tables 4-1 through 4-4 contain summary emission tables for each process at K & T Steel. Table 4-1 presents annual projected and PTE emission rates for criteria pollutants and HAPs. Criteria pollutants include particulate matter with an aerodynamic diameter less than 10 microns (PM_{10}), sulfur dioxide (SO_2), nitrogen dioxide (NO_2) measured as nitrogen oxides (NOx), carbon monoxide (CO), volatile organic compounds (VOCs), and lead (Pb). Table 4-2 presents annual projected and PTE emission rates for TAPs. Table 4-3 presents hourly PTE emission rates for criteria pollutants and HAPs, and Table 4-4 presents hourly PTE emission rates for TAPs. In all tables, the emission rates are apportioned by process. Emission calculations and mechanics are described in the following sections. As shown in these tables, K & T Steel PTE emissions exceed neither PTC thresholds nor Title V thresholds. Details of emissions calculations for all K & T Steel sources are provided in Appendix D.

TABLE 4-1

ANNUAL PROJECTED AND PTE FACILITY-WIDE CRITERIA POLLUTANT AND HAP EMISSIONS

Compound or Chemical	CAS	Painting	Tank Coating	Grit Blasting	Welding	Space Heaters - Manufacturing Shop	Space Heater - Paint Building	**Total Projected Emissions (ton/yr)**	**Total PTE Emissions (ton/yr)**
Criteria Pollutants									
PM	-	4.2	0	0.081	0.184	0.020	0.046	**4.52**	**7.86**
PM_{10}	-	2.8	0	0.039	0.184	0.020	0.046	**3.06**	**5.32**
SO_2	-	-	-	-	-	0.0016	0.0036	**0.0052**	**0.01**
NO_x	-	-	-	-	-	0.25	0.566	**0.81**	**1.41**
CO	-	-	-	-	-	0.11	0.241	**0.35**	**0.60**
VOC	-	17.0	0.469	-	-	0.014	0.033	**17.5**	**30.48**
Pb	-	-	-	-	-	0.000001	0.000003	**0.000004**	**0.000008**
HAPs									
Benzene	71-43-2	-	-	-	-	0.000006	0.000013	**0.000018**	**0.000032**
Ethyl benzene	100-41-4	1.89	-	-	-	-	-	**1.89**	**3.28**
Formaldehyde	50-00-0	-	-	-	-	0.00020	0.00045	**0.00065**	**0.0011**
Hexane	110-54-3	-	-	-	-	0.005	0.011	**0.016**	**0.027**
Methyl ethyl ketone (MEK)	78-93-3	1.90	-	-	-	-	-	**1.90**	**3.30**
Methyl isobutyl ketone (Hexone)	108-10-1	0.78	-	-	-	-	-	**0.78**	**1.35**
Naphthalene	91-20-3	-	-	-	-	0.000002	0.000004	**0.000005**	**0.000009**
Toluene	108-88-3	0.06	-	-	-	0.000009	0.000020	**0.061**	**0.11**
Xylenes	1330-20-7	7.26	-	-	-	-	-	**7.26**	**12.62**
Total HAPs	-	*11.88*	-	-	-	*0.0049*	*0.011*	***11.90***	***20.68***

Note: All emission values are in units of ton/yr.

TABLE 4-2

ANNUAL PROJECTED AND PTE FACILITY-WIDE TAP EMISSIONS

Compound or Chemical	CAS	Painting	Tank Coating	Grit Blasting	Welding	Space Heaters - Manufacturing Shop	Space Heater - Paint Building	**Total Projected Emissions (ton/yr)**	**Total PTE Emissions (ton/yr)**
Ammonia	7664-41-7	-	-	-	-	-	-	**0.00**	**0.00**
Benzene	71-43-2	-	-	-	-	0.00001	0.00001	**0.00002**	**0.00003**
Benzene dimethyl	1330-20-7	0.44	-	-	-	-	-	**0.44**	**0.77**
Butyl acetate	123-86-4	0.78	-	-	-	-	-	**0.78**	**1.35**
Butyl alcohol (Butanol)	71-36-3	0.50	-	-	-	-	-	**0.50**	**0.87**
Crystalline silica	14808-60-7	0.11	0	-	-	-	-	**0.11**	**0.19**
Diglycidyl ether	2238-07-5	0.000001	-	-	-	-	-	**0.000001**	**0.000001**
Ethyl benzene	100-41-4	1.9	-	-	-	-	-	**1.89**	**3.28**
Formaldehyde	50-00-0	-	-	-	-	0.00020	0.00045	**0.00065**	**0.0011**
Heptanone	110-43-0	0.090	-	-	-	-	-	**0.090**	**0.16**
Hexane	110-54-3	-	-	-	-	0.005	0.011	**0.016**	**0.027**
Methyl ethyl ketone (MEK)	78-93-3	1.9	-	-	-	-	-	**1.90**	**3.30**
Methyl isobutyl ketone (Hexone)	108-10-1	0.78	-	-	-	-	-	**0.78**	**1.35**
1-Methoxy-2-propyl acetate	108-65-6	0.087	-	-	-	-	-	**0.087**	**0.15**
Naphthalene	91-20-3	-	-	-	-	0.000002	0.000004	**0.000005**	**0.000009**
PAHs	-	-	-	-	-	0.00000003	0.00000006	**0.0000001**	**0.0000001**
Pentane	109-66-0	-	-	-	-	0.0068	0.016	**0.022**	**0.04**
Phenyl glycidyl ether	122-60-1	0.000002	-	-	-	-	-	**0.000002**	**0.000003**
Propylene glycol methyl ether	107-98-2	0.023	-	-	-	-	-	**0.023**	**0.039**
Stoddard solvent	8052-41-3	0.032	-	-	-	-	-	**0.032**	**0.055**
Toluene	108-88-3	0.061	-	-	-	0.00001	0.00002	**0.061**	**0.11**
VM & P naphtha	64742-89-8	0.64	-	-	-	-	-	**0.64**	**1.12**
Xylenes	1330-20-7	7.3	-	-	-	-	-	**7.26**	**12.62**

Note: All emission values are in units of ton/yr.

TABLE 4-3

HOURLY PTE FACILITY-WIDE CRITERIA POLLUTANT AND HAP EMISSIONS

Compound or Chemical	CAS	Painting	Tank Coating	Grit Blasting	Welding	Space Heaters - Manufacturing Shop	Space Heater - Paint Building	**Total (lb/hr)**
Criteria Pollutants								
PM	-	6.7	0	0.135	0.074	0.0046	0.010	**6.87**
PM_{10}	-	4.4	0	0.065	0.074	0.0046	0.010	**4.55**
SO_2	-	-	-	-	-	0.00036	0.00083	**0.0012**
NO_x	-	-	-	-	-	0.056	0.13	**0.19**
CO	-	-	-	-	-	0.024	0.055	**0.08**
VOC	-	27.0	0.642	-	-	0.0033	0.0076	**27.7**
Pb	-	-	-	-	-	0.0000003	0.000001	**0.000001**
HAPs								
Benzene	71-43-2	-	-	-	-	0.000001	0.000003	**0.000004**
Ethyl benzene	100-41-4	3.0	-	-	-	-	-	**3.00**
Formaldehyde	50-00-0	-	-	-	-	0.000045	0.00010	**0.00015**
Hexane	110-54-3	-	-	-	-	0.0011	0.0025	**0.004**
Methyl ethyl ketone (MEK)	78-93-3	3.0	-	-	-	-	-	**3.01**
Methyl isobutyl ketone (Hexone)	108-10-1	1.24	-	-	-	-	-	**1.24**
Naphthalene	91-20-3	-	-	-	-	0.0000004	0.000001	**0.000001**
Toluene	108-88-3	0.098	-	-	-	0.000002	0.000005	**0.098**
Xylenes	1330-20-7	11.5	-	-	-	-	-	**11.52**
Total HAPs	-	*18.9*	-	-	-	*0.0011*	*0.0026*	***18.9***

Note: All emission values are in units of lb/hr.

TABLE 4-4

HOURLY PTE FACILITY-WIDE TAP EMISSIONS

Compound or Chemical	CAS	Painting	Tank Coating	Grit Blasting	Welding	Space Heaters - Manufacturing Shop	Space Heater - Paint Building	**Total (lb/hr)**
Ammonia	7664-41-7	-	-	-	-	-	-	**0.00**
Benzene	71-43-2	-	-	-	-	0.000001	0.000003	**0.000004**
Benzene dimethyl	1330-20-7	0.70	-	-	-	-	-	**0.70**
Butyl acetate	123-86-4	1.23	-	-	-	-	-	**1.23**
Butyl alcohol (Butanol)	71-36-3	0.79	-	-	-	-	-	**0.79**
Crystalline silica	14808-60-7	0.18	0	-	-	-	-	**0.18**
Diglycidyl ether	2238-07-5	0.000001	-	-	-	-	-	**0.000001**
Ethyl benzene	100-41-4	3.00	-	-	-	-	-	**3.00**
Formaldehyde	50-00-0	-	-	-	-	0.000045	0.000103	**0.00015**
Heptanone	110-43-0	0.143	-	-	-	-	-	**0.143**
Hexane	110-54-3	-	-	-	-	0.0011	0.0025	**0.004**
Methyl ethyl ketone (MEK)	78-93-3	3.01	-	-	-	-	-	**3.01**
Methyl isobutyl ketone (Hexone)	108-10-1	1.24	-	-	-	-	-	**1.24**
1-Methoxy-2-propyl acetate	108-65-6	0.138	-	-	-	-	-	**0.138**
Naphthalene	91-20-3	-	-	-	-	0.0000004	0.000001	**0.000001**
PAHs	-	-	-	-	-	0.00000001	0.00000001	**0.00000002**
Pentane	109-66-0	-	-	-	-	0.0016	0.0036	**0.005**
Phenyl glycidyl ether	122-60-1	0.000003	-	-	-	-	-	**0.000003**
Propylene glycol methyl ether	107-98-2	0.036	-	-	-	-	-	**0.036**
Stoddard solvent	8052-41-3	0.051	-	-	-	-	-	**0.051**
Toluene	108-88-3	0.098	-	-	-	0.000002	0.000005	**0.098**
VM & P naphtha	64742-89-8	1.02	-	-	-	-	-	**1.02**
Xylenes	1330-20-7	11.52	-	-	-	-	-	**11.52**

Note: All emission values are in units of lb/hr.

4.1 PAINTING EMISSIONS

Emissions from the painting process are generated in the Paint Building. K & T Steel uses a variety of painting products. PM/PM_{10}, VOCs, HAPs, and TAPs are emitted from these products, though not all painting products (such as thinners) emit PM/PM_{10}.

To calculate PM emissions, the following equation was used:

$$P = PRU * (1 - TE) * (1 - CE)$$

where:

P = PM emissions (lb/yr)

PRU = product used annually (lb/yr)

= product density (pounds per gallon, or lb/gal) times the product volume usage (gal/yr)

TE = transfer efficiency (%)

= 45%

CE = control efficiency (%)

= 87%

To calculate PM_{10} emissions, the following equation was used:

$$P_{PM_{10}} = P * R$$

where:

P_{PM10} = PM_{10} emissions (lb/yr)

P = PM emissions (lb/yr)

R = ratio of PM_{10} to PM in emissions (EPA 1989)

= 66.1%

Non-volatile HAP and TAP emissions (such as crystalline silica) were calculated using the following equation:

$$AP = P * C$$

where:

AP = HAP/TAP emissions (lb/yr)

P = PM emissions (lb/yr)

C = weight percent of chemical in product (%)

VOC, volatile HAP, and volatile TAP emissions were calculated using the following equation:

$$E = PRU * C$$

where:

E = VOC, HAP, or TAP emissions (lb/yr)

PRU = product used annually (lb/yr)

= product density (lb/gal) times the product volume usage (gal/yr)

C = weight percent of chemical in product (%)

For certain products, VOC percentages were presented by volume rather than by weight. For these products, VOC emissions were calculated by the following alternative method:

$$E = PR * D$$

where:

E = VOC emissions (lb/yr)

PR = product used annually (gal/yr)

D = VOC density (lb/gal)

Hourly paint emissions were calculated by scaling the annual total pollutant-specific lb/yr emission rates to the maximum hourly spray rate.[1] Appendices D-2 through D-24 provide detailed emission rate calculations for the painting process.

[1] To calculate the maximum hourly pollutant-specific emission rate from painting, the lb/yr emission rate for a given pollutant was divided by 10,500 gal/yr to obtain an average lb/gal value, and multiplied by the maximum hourly spray rate (50 gal/day, 6 hrs/day).

4.2 TANK COATING EMISSIONS

A small amount of tank coating is conducted outside of the Paint Building. This process involves coating a small number of tanks with black asphalt. The coating is applied with a roller, not a sprayer. Emissions were calculated using the equations presented in Section 4.1 for the painting process. Appendix D-25 provides detailed emission rates for the tank coating process.

4.3 GRIT BLASTING EMISSIONS

Grit blasting emissions are generated in the Sand Blast Building. PM and PM_{10} are the only pollutants emitted in the grit blasting process. Emissions were calculated using the following equation:

$$E = G * EF * (100\% - CE) * CF$$

where:

E = PM or PM_{10} emission rate (lb/yr)

G = quantity of grit used annually (lb/yr)

EF = emission factor (lbs PM or PM_{10}/1000 lb of grit), AP 42 13.2.6-1

CE = wet scrubber control efficiency (%)
= 80% (manufacturer's guarantee)

CF = conversion factor (thousand lb grit /1000 lb grit)

Detailed emission calculations for grit blasting are provided in Appendix D-26.

4.4 WELDING EMISSIONS

Welding emissions are generated in the Manufacturing Shop and are not captured with hooding or special ventilation. Welding activities result in fugitive emissions of PM_{10}. No other criteria pollutants are emitted in significant quantities from the welding process.

To calculate welding emissions, the following equation was used:

$$P = E * EF * CF$$

where:

P = PM_{10} emissions (pounds per year, or lb/yr)

E = electrodes consumed annually (lb electrodes consumed/yr)

EF = emission factor (lb PM_{10}/thousand lb electrode consumed), from AP 42 12.19-1

CF = conversion factor (thousand lb electrode consumed/1000 lb electrode consumed)

Detailed emission calculations for welding are provided in Appendix D-27.

4.5 SPACE HEATER EMISSIONS

Air in the Manufacturing Shop and the Paint Building is heated using natural gas-fired space heaters. The space heaters emit small amounts of criteria pollutants, including NOx, SO_2, CO, PM_{10}, Pb, and VOCs.

Emissions were calculated using the following equation:

$$E = HV * EF * \frac{10^6\,Btu}{mmBtu} * \frac{scf}{1000\,Btu} * \frac{mmscf}{10^6\,scf} * H * N$$

where:

E = criteria pollutant emission rate (lb/hr)

HV = heating value (mmBtu/hr)

EF = emission factor (lb pollutant/10^6 standard cubic feet, or scf), AP 42 1.4-1

H = hours of operation per year (hrs/yr)

N = number of heaters (unitless)

Appendices D-28 and D-29 provide detailed emission rates for the space heaters.

4.6 MOBILE COMBUSTION ENGINE SOURCES

The facility operates mobile combustion engine sources such as forklifts. Forklifts are operated only during business hours. Emissions from these sources are not required for this application.

5.0 CLASS II AREA AIR QUALITY IMPACT ANALYSIS

This section describes the technical approach used for a Class II air quality impact analysis for the K & T Steel facility. The modeling addresses the impacts from the five processes involved in steel fabrication at the facility. The dispersion modeling follows the guidance and protocols outlined in the *State of Idaho Air Quality Modeling Guideline* (IDEQ Modeling Guideline; IDEQ 2002) and EPA's *Guideline on Air Quality Models (Revised)* (EPA 2005). A modeling protocol describing the proposed modeling approach was submitted to IDEQ on November 1, 2007 (Tetra Tech 2007). This protocol was approved with resolution of comments on November 9, 2007 (IDEQ 2007e).

The IDEQ Modeling Guideline indicates that "a modeling analysis is generally required with each permit application for new construction or a modification that results in an increase in emissions of pollutants for sources permitted by DEQ. The types of permits that require a facility to demonstrate compliance with the NAAQS are permits to construct...and Tier II operating permits.... A modeling analysis may also be required to demonstrate compliance with the TAP standards."

For new permit applications, IDEQ established modeling thresholds for criteria pollutant emissions. If the facility-wide emissions for a given pollutant are less than modeling thresholds, dispersion modeling for that pollutant is not required. Criteria pollutants assessed include PM_{10}, NOx, CO, SO_2, and Pb. IDEQ does not require dispersion modeling for VOC to ozone conversion as part of the permitting process. For TAPs, the facility-wide emissions are compared to screening emission levels (ELs). Modeling is required for those TAPs with emissions that are equal to or greater than the ELs. Applicable ELs are provided in IDAPA 58.01.01.585 and 586.

Modeling thresholds for criteria pollutants are shown in Table 5-1, along with a summary of maximum projected K & T Steel emissions. PM_{10} is the only criteria pollutant that was modeled, based on comparisons of projected emissions and modeling thresholds (Table 5-1). K & T Steel emissions of all other criteria pollutants are predicted to be less than modeling thresholds.

ELs for TAPs emitted at K & T Steel are shown in Table 5-2, along with a summary of projected K & T Steel hourly emissions. Emissions of one TAP – crystalline silica – exceed the ELs. This pollutant was modeled as per IDAPA 58.01.01.585 and 586.

TABLE 5-1

MODELING THRESHOLDS AND TOTAL PROJECTED CRITERIA POLLUTANT EMISSIONS

Pollutant	Long-Term Modeling Threshold	Projected K & T Steel Emissions	Short-Term Modeling Threshold	Projected K & T Steel Emissions
CO	N/A[a]	N/A[a]	14 lbs/hr	0.08 lb/hr
NOx	1 ton/yr	0.81 ton/yr	N/A[a]	N/A[a]
PM_{10}	1 ton/yr	**3.06 tons/yr**	0.2 lb/hr	**4.55 lbs/hr**
SO_2	1 ton/yr	0.0052 ton/yr	0.2 lb/hr	0.0036 lb/3 hrs
Pb	0.6 ton/yr	0.000004 ton/yr	100 lbs/month	0.0007 lb/month

a N/A = not applicable.

TABLE 5-2

SCREENING EMISSION LEVELS AND TOTAL PROJECTED TAP EMISSIONS

Compound or Chemical	**Total (lb/hr)**	EL (lb/hr)
Ammonia	**0.00**	1.2
Benzene	**0.000004**	0.0008
Benzene dimethyl	**0.70**	29.0
Butyl acetate	**1.23**	47.3
Butyl alcohol (Butanol)	**0.79**	10.0
Crystalline silica	**0.18**	**0.0067**
Diglycidyl ether	**0.000001**	0.035
Ethyl benzene	**3.00**	29.0
Formaldehyde	**0.00015**	0.00051
Heptanone	**0.143**	15.7
Hexane	**0.004**	12.0
Methyl ethyl ketone (MEK)	**3.01**	39.3
Methyl isobutyl ketone (Hexone)	**1.24**	13.7
1-Methoxy-2-propyl acetate	**0.138**	24.0
Naphthalene	**0.000001**	3.33
PAHs	**0.00000002**	0.000091
Pentane	**0.005**	118
Phenyl glycidyl ether	**0.000003**	0.40
Propylene glycol methyl ether	**0.036**	24.0
Stoddard solvent	**0.051**	35.0
Toluene	**0.098**	25.0
VM & P naphtha	**1.02**	91.3
Xylenes	**11.52**	29.0

Note: All emission values are in units of lb/hr.

IDEQ recommends that a preliminary analysis (PA) first be conducted when dispersion modeling is warranted. Facility-wide emissions are modeled for the PA to evaluate whether a significant impact exists. Based on the comparisons shown in Table 5-1, PM_{10} emissions from K & T Steel were modeled to determine if a significant impact exists. Model results are compared to the Class II Significant Contribution Levels (SCLs). Table 5-3 shows the SCLs, which are used to assess whether or not a facility has a significant impact at downwind receptors. When modeling results do not exceed SCLs for a pollutant, no further analysis for that pollutant is required.

A full impact analysis (FIA) must be performed if any of the model results exceed the SCLs, which typically requires adding impacts from facility-wide emissions to neighboring source contributions and a background concentration to estimate a total concentration. Background concentrations and neighboring source contributions were obtained from IDEQ for the cumulative impact analysis (IDEQ 2007e). The total concentration for a pollutant must demonstrate compliance with the NAAQS. Table 5-3 shows the NAAQS increments with which K & T Steel must comply should a FIA be needed. A Prevention of Signification Deterioration (PSD) increment compliance demonstration is not required because K & T Steel is a minor source of air pollution.

TABLE 5-3

CLASS II SIGNIFICANT CONTRIBUTION LEVELS AND AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Period	Significant Contribution Level ($\mu g/m^3$)[a]	National AAQS ($\mu g/m^3$)[a]
NO_2	Annual	1	100
SO_2	Annual	1	80
	24-hour	5	365[c]
	3-hour	25	1,300[c]
CO	8-hour	500	10,000[c]
	1-hour	2,000	40,000[c]
PM_{10}	Annual	1	50
	24-hour	5	150[c]
Pb	Quarterly	N/A[b]	1.5
Ozone	1-hour	N/A[b]	235

a $\mu g/m^3$ = micrograms per cubic meter
b N/A = not applicable
c Not to be exceeded more than once per calendar year

Dispersion modeling was also performed for all TAPs that exceed the ELs to demonstrate compliance with the Acceptable Ambient Concentrations (AACs), listed in IDAPA 58.01.01.585 and .586. Based on

the initial emission inventory and as shown in Table 5-2, crystalline silica exceeds its respective EL and thus was modeled for compliance with the AAC.

The following sections discuss the dispersion model that was used in this analysis, potential wake effects of the structures at K & T Steel, terrain, meteorological data, receptors, background concentrations and neighboring source contributions, model parameters, and results.

5.1 DISPERSION MODEL SELECTION

The dispersion modeling was conducted using the American Meteorological Society/Environmental Protection Agency Regulatory Model Improvement Committee Dispersion Model (AERMOD version 07026). This model is recommended by EPA for evaluating Class II impacts within 50 kilometers (km) of the facility being assessed (EPA 2004a). Additionally, AERMOD was developed to handle complex terrain. In this analysis, AERMOD was used to predict maximum pollutant concentrations in ambient air from K & T Steel emissions. AERMOD was run using all the regulatory default options including use of stack-tip downwash, buoyancy-induced dispersion, calms processing routines, upper-bound downwash concentrations for super-squat buildings, default wind speed profile exponents, vertical potential temperature gradients, and no use of gradual plume rise. Only pollutant dispersion was modeled for this analysis; deposition was not considered.

5.2 BUILDING WAKE EFFECTS

The potential for downwash effects on stack emissions from nearby structures can be assessed in the AERMOD model. AERMOD model inputs include building dimensions to assess the potential for downwash effects. The direction-specific downwash parameters were calculated using facility plot-plan maps and BPIP-prime (BPIPPRM) software (version 04274), which is the building downwash program associated with the AERMOD model. Output from BPIPPRM was incorporated into the AERMOD modeling input files.

5.3 TERRAIN DESCRIPTION

K & T Steel is located in Twin Falls, Idaho, at an elevation of approximately 3,765 feet above mean sea level (amsl). The facility is situated in an industrial area with residential areas approximately one mile

north and east of the facility. Undeveloped land is located to the west and south of the facility. Rural dispersion was modeled for this effort.

K & T Steel is over 40 miles from the border of the closest Class I area (Jarbidge Wilderness Area in northeastern Nevada) and over 60 miles from the closest Class I area in Idaho (Craters of the Moon Wilderness). It is not anticipated that emissions from the K & T Steel facility will impact any Class I areas.

5.4 METEOROLOGICAL DATA

Dispersion modeling was conducted using surface meteorological data from the National Weather Service (NWS) station located at the Burley Municipal Airport in Burley, Idaho. This station is approximately 35 miles from K & T Steel. Data for the period January 1, 2002, through December 31, 2006 were used. Upper air meteorological data from the Boise, Idaho NWS station for the same period were also be used. These data were selected because they are the most representative available for site conditions at the K & T Steel facility and were recommended by Darrin Mehr of IDEQ via telephone communication (IDEQ 2007a). Meteorological data were processed into model-ready format using EPA's AERMET software (version 06341), described in *User's Guide for the AERMOD Meteorological Preprocessor – AERMET* (EPA 2004b). Figure 3-1 shows a windrose diagram of the five years of meteorological data used in the modeling analysis.

Surface data required as input to AERMET, but not included in the NWS dataset, include albedo of the ground, Bowen ratio, and surface roughness. These parameters were estimated using a land use land cover (LULC)-sector approach for the area surrounding the surface meteorological station, per IDEQ guidance (IDEQ 2007b, 2007c, 2007d). Twelve (12) sectors with radii of 3 km were defined around the meteorological station. The percentage of LULC per sector was determined using GIS techniques. Seasonal values for albedo, Bowen ratio, and surface roughness from the AERMET User's Guide were assigned to each LULC type. The albedo and Bowen ratio for each sector were calculated as a weighted arithmetic mean, and the surface roughness for each sector was calculated as a weighted geometric mean. A total of 48 values for each parameter was estimated (12 sectors and 4 seasons per sector). These calculations are provided in Appendix F.

5.5 RECEPTORS

The K & T Steel dispersion modeling was completed using a dense receptor grid to identify the maximum estimated impacts from the facility. Following IDEQ and EPA guidelines, receptor locations were identified with sufficient density and spatial coverage to isolate the area with the highest impacts. The following receptor location groups were used for the analysis:

- Fence line at 10-meter intervals;
- 25-meter receptor spacing out to 100 meters in all directions from the fence line;
- 100-meter receptor spacing out to 1 km in all directions from the fence line;
- 500-meter receptor spacing between 1 km and 5 km from the fence line; and
- 1000-meter receptor spacing between 5 km and 10 km from the fence line.

The fence line was considered to include the sections of the property with restricted public access, via fencing and warning signs. 1,641 receptors were used. Receptor locations are presented in UTM coordinates (NAD 83). Figure 5-2 shows the receptor grid relative to the K & T Steel facility. Terrain elevations were assigned to all receptors using U.S. Geological Survey (USGS) 7.5-minute series digital elevation model (DEM) data in the AERMAP program (version 06341). DEM data were available in the NAD 27 coordinate system.

FIGURE 5-1

BURLEY, IDAHO METEOROLOGICAL STATION WINDROSE (2002-2006)

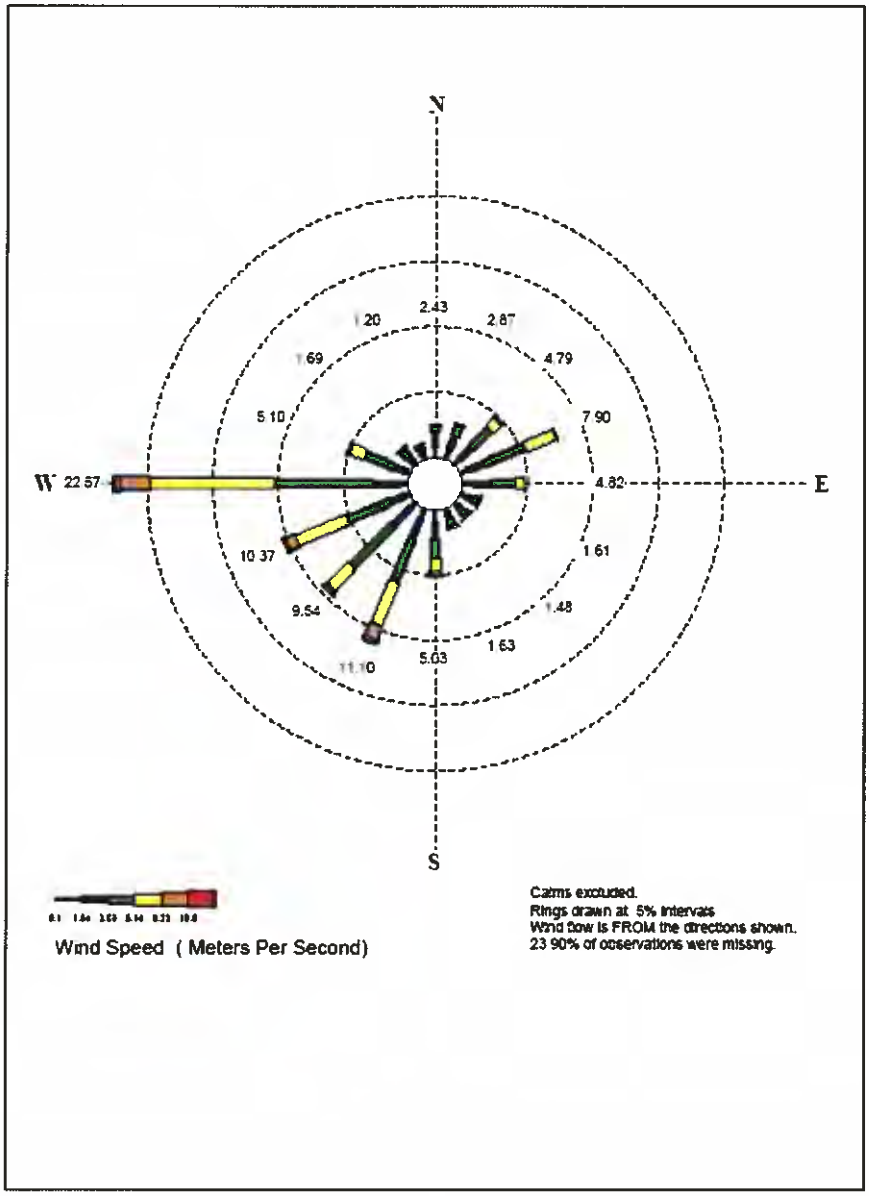
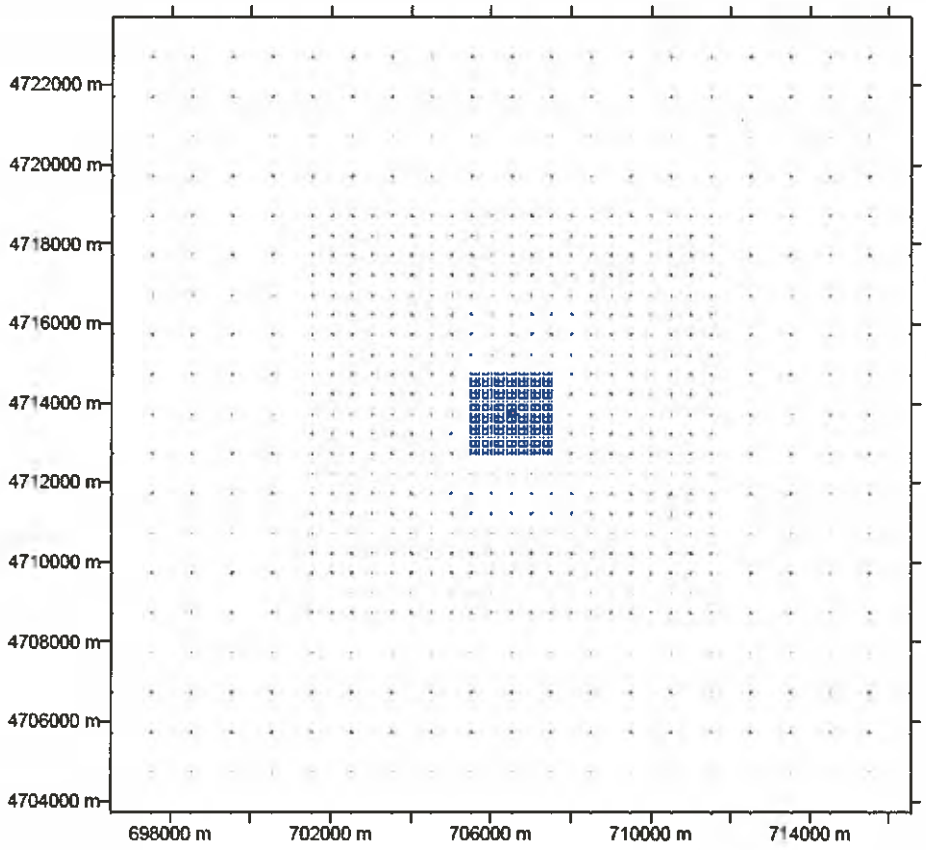


FIGURE 5-2

K & T STEEL RECEPTOR GRID



Notes:
Axis coordinates are presented in NAD 83 UTM Zone 11 meters.
xxx – Fence line receptor
xxx – Grid receptor

5.6 BACKGROUND CONCENTRATIONS AND NEIGHBORING SOURCE CONTRIBUTIONS

Ambient background concentrations represent the contribution of pollutant sources that are not included in the modeling analysis, including naturally occurring sources. Background concentrations for PM_{10} were obtained from IDEQ (IDEQ 2007e). 24-hour and annual PM_{10} background concentrations (73 $\mu g/m^3$ and 26 $\mu g/m^3$, respectively) were used for this analysis. These data are based on default rural/agricultural values and are anticipated to be conservative. Background concentrations were not available for crystalline silica emissions.

Neighboring source contributions were obtained from IDEQ for PM_{10} (IDEQ 2007e). IDEQ recommended using a generic method to add impacts from neighboring facilities to modeled concentrations. Use of the generic method results in the addition of 20 $\mu g/m^3$ to 24-hour PM_{10} modeled concentrations and 5 $\mu g/m^3$ for annual PM_{10} modeled concentrations. Neighboring source contributions were not available for crystalline silica emissions.

5.7 MODEL PARAMETERS

Modeled emissions sources at the K & T Steel facility include both point sources and volume sources. Model parameters and emission rates are shown in Tables 5-4 and 5-5 and discussed below. Source locations are presented in UTM coordinates (NAD 83). Certain operations and activities performed on-site produce air emissions that are considered insignificant with respect to Idaho Tier I air quality permit regulations, according to the IDAPA 58.01.01.317. However, it does not appear that these activities are considered insignificant under Idaho modeling guidelines. Therefore all emission units at the K & T Steel facility were included in the dispersion modeling effort.

Exhaust gas fumes from painting are vented out of the Paint Building via two (2) vertical stacks equipped with particulate filters. The filters have a particulate capture efficiency of 87%, based on the manufacturer's guarantee. Because the filters do not capture any VOCs, it was assumed that all VOCs emitted during the painting process escape the Paint Building through these stacks. Each stack has an estimated air flow of 10,000 ACFM, based on K & T Steel's best engineering judgment. Stack heights and diameters were provided by K & T Steel. The exhaust temperature from the stacks is the same as the temperature inside the buildings, which is kept at 68 degrees Fahrenheit (°F).

The tank coating operation results in fugitive emissions of VOCs. None of the pollutants emitted from this process required modeling. Therefore, this source was not modeled.

Grit and space heater emissions from the Sand Blast Building operation are vented through a horizontal stack located near the top of the building. Because the vent is horizontally oriented, it was treated as a point source with a nominal exit velocity (0.001 meters per second) in the model (IDEQ, 2008). The release height was assumed to be the height of the building. The exhaust temperature from the stack is the same as the temperature inside the buildings, which is kept at 68 °F.

Welding and space heater emissions from the Manufacturing Shop are emitted as a source of fugitive emissions that are not captured with hooding or special ventilation. Therefore, this source was modeled as a volume source, per IDEQ recommendations (IDEQ 2007e). The release height was assumed to be the height of the building. Sigma y and sigma z values were calculated based on AERMOD guidance, as shown in Table 5-4.

TABLE 5-4

CRITERIA POLLUTANT SOURCE EMISSION RATES AND STACK PARAMETERS

Source	Source Type	Release Height (m)	Stack Temperature (Kelvin)	Flow Rate (ACFM)	Stack Exit Velocity (m/s)	Stack Diameter (m)	Sigma y (m)[1]	Sigma z (m)[2]	PM_{10} Emission Rate (g/s)	
									24-Hour	Annual
Paint Building - Stack 1[3]	Point	11.33	293	10,000	12.13	0.762	N/A	N/A	0.06990	0.04049
Paint Building - Stack 2[3]	Point	11.33	293	10,000	12.13	0.762	N/A	N/A	0.06990	0. 04049
Sand Blast Building	Point	3.76	293	Nominal	0.001	0.462	N/A	N/A	0.00171	0.00112
Manufacturing Shop[4]	Volume[5]	3.05	293	Fugitive	N/A	N/A	1.16	1.42	0.00677	0.00587

1 The sigma y values for the volume sources were calculated by dividing the length of side by 4.3, per AERMOD guidance. The length of side was estimated as 5 m for the Manufacturing Shop.

2 The sigma z values for the Manufacturing Shop were calculated as the initial release heights of the sources divided by 2.15 (for a fugitive source on or adjacent to a building).

3 Paint Building emissions are comprised of paint and space heater emissions. The 24-hour paint emission rate was calculated by dividing the maximum pounds per day emission rate by 24 hours, and converting to a g/s value. This value was added to the space heater emission rate, which assumes emissions occur 24 hours per day.

4 Manufacturing Shop emissions are comprised of welding and space heater emissions. The 24-hour welding emission rate was calculated by dividing the maximum pounds per day emission rate by 24 hours, and converting to a g/s value. This value was added to the space heater emission rate, which assumes emissions occur 24 hours per day.

5 IDEQ requested that fugitive emission sources be modeled as volume sources (IDEQ 2007e).

TABLE 5-5

TAP SOURCE EMISSION RATES AND STACK PARAMETERS

Source	Source Type	Release Height (m)	Stack Temperature (Kelvin)	Flow Rate (ACFM)	Stack Exit Velocity (m/s)	Stack Diameter (m)	Crystalline Silica Emission Rate (g/s)[1]
Paint Building - Stack 1	Point	11.33	293	10,000	12.13	0.762	0.00279
Paint Building - Stack 2	Point	11.33	293	10,000	12.13	0.762	0. 00279

1 Crystalline silica is emitted during the painting process. The crystalline silica emission rate was calculated by dividing the maximum pounds per day emission rate by 24 hours, and converting to a g/s value.

5.8 MODEL RESULTS

Annual and 24-hour emissions of PM_{10} were modeled using AERMOD, as discussed in section 5.0. As shown in Table 5-6, modeled concentrations of both annual and 24-hour PM_{10} emissions exceeded their respective SCLs. Therefore, a cumulative impact analysis was conducted for PM_{10}. Figures 5-3 and 5-4 show results of significant impact modeling for 24-hour and annual PM_{10}, respectively.

Cumulative modeling for both averaging periods demonstrates that K & T Steel will comply with the NAAQS levels. The highest second-high cumulative 24-hour PM_{10} impact, with background and neighboring source values added, is 134 $\mu g/m^3$. The highest cumulative annual PM_{10} impact, with background and neighboring source values added, is 43 $\mu g/m^3$. These values are below the respective NAAQS values of 150 $\mu g/m^3$ and 50 $\mu g/m^3$. Figures 5-5 and 5-6 present NAAQS impact contours for PM_{10}.

AERMOD modeling was also completed for 24-hour crystalline silica emissions. The maximum 24-hour impact from crystalline silica emissions at K & T Steel, 1.7 $\mu g/m^3$, is less than the AAC established in IDAPA 58.01.01 (5.0 $\mu g/m^3$). Table 5-6 summarizes the modeling results for crystalline silica.

All electronic modeling files used in this analysis are included in Appendix E of this permit application.

TABLE 5-6

K & T STEEL SCL MODEL RESULTS

Pollutant	Averaging Period	UTM-X Location (m)	UTM-Y Location (m)	Year	Maximum Modeled Concentration ($\mu g/m^3$)[a]	SCL ($\mu g/m^3$)[a]
PM_{10}	Annual	706,660	4,713,745	2006	11.5	1
	24-hour	706,625	4,713,745	2005	44.0	5
Crystalline Silica	24-hour	706,625	4,713,745	2005	1.7	N/A[b]

a $\mu g/m^3$ = micrograms per cubic meter
b N/A = not applicable

TABLE 5-7

K & T STEEL NAAQS MODEL RESULTS

Pollutant	Averaging Period	Year	Maximum Modeled Concentration ($\mu g/m^3$)[a]	Background Concentration ($\mu g/m^3$)[a]	Neighboring Source Contribution ($\mu g/m^3$)[a]	Total Concentration ($\mu g/m^3$)[a]	National AAQS ($\mu g/m^3$)[a]	24-Hour AAC ($\mu g/m^3$)[a]
PM_{10}	Annual	2006	11.5	26	5	43	50	N/A[b]
	24-hour	2005	41.3[c]	73	20	134	150[d]	N/A[b]
Crystalline Silica	24-hour	2005	1.7	N/A[b]	N/A[b]	1.7	N/A[b]	5.0[e]

a $\mu g/m^3$ = micrograms per cubic meter
b N/A = not applicable
c Modeled concentration shown is highest second high value.
d Not to be exceeded more than once per calendar year
e The 24-hour AAC for crystalline silica is 0.005 mg/m^3.

FIGURE 5-3

24-HOUR PM_{10} SIGNIFICANT CONTRIBUTION LEVEL CONCENTRATIONS

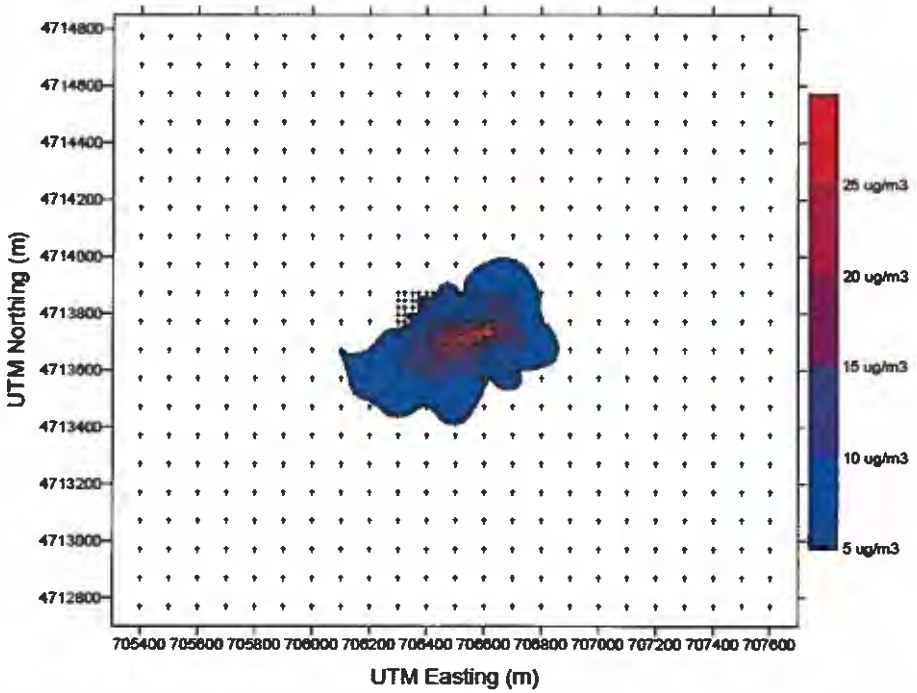


FIGURE 5-4

ANNUAL PM_{10} SIGNIFICANT CONTRIBUTION LEVEL CONCENTRATIONS

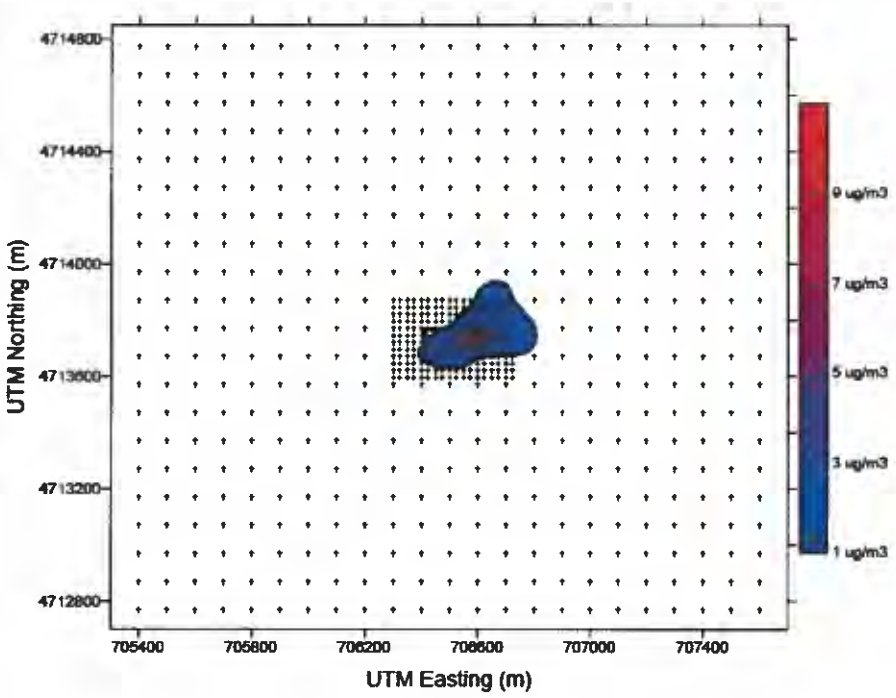


FIGURE 5-5

24-HOUR PM_{10} NAAQS CONCENTRATIONS

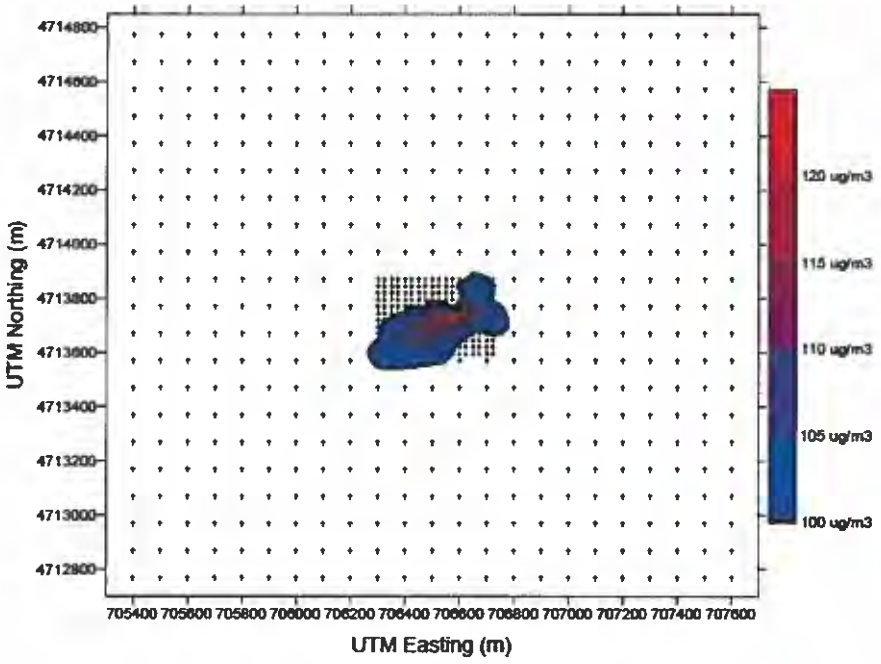
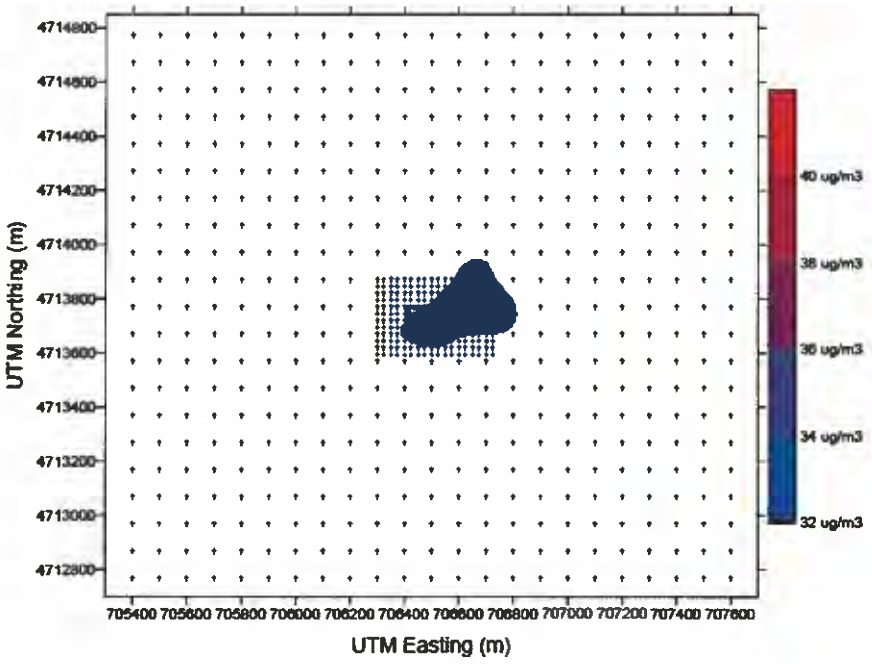


FIGURE 5-6

ANNUAL PM_{10} NAAQS CONCENTRATIONS



6.0 EXCESS EMISSIONS DOCUMENTATION

This section is not applicable to K & T Steel because no excess emissions will be caused by startup, shutdown, or scheduled maintenance. Appendix D provides potential-to-emit emission calculations for criteria pollutants, HAPs, and TAPs.

7.0 COMPLIANCE CERTIFICATION PLAN

To maintain compliance with the provisions of the PTC, K & T Steel proposes to maintain a facility-wide record keeping program. Table 7-1 presents the parameters proposed for the record keeping program.

The key components of the record keeping program will be logbooks at the Paint Building, which contains the most significant HAP/VOC emission sources. Records will include purchasing and usage records for paint, solvents, and other coatings used.

K & T Steel requests that IDEQ establish criteria pollutant and TAP permit limits based on facility-wide emission rates for each pollutant. In the event that K & T Steel's operations require the use of a new paint or solvent, IDEQ will be provided a copy of the MSDS to verify that pollutant emission limits will not be exceeded.

Operators will record usage of chemicals for all fabricated material that is coated. The information will be compiled at the frequencies indicated in Table 7-1. The spreadsheet will calculate emissions for all chemicals using the same calculation methodology as presented in this permit application. Monthly records of HAP/VOC emissions will be kept with the operating permit documentation.

TABLE 7-1
RECORD KEEPING AND MONITORING PARAMETERS

Parameter	Frequency
Paint and solvent usage (type and quantity)	Updated Weekly
Purchasing documentation for paints and solvents	Updated Monthly
Spreadsheet of HAP/VOC emissions	Updated Monthly

8.0 REFERENCES

Idaho Department of Environmental Quality (IDEQ). 2002. *State of Idaho Air Quality Modeling Guideline*. Stationary Source Program, Air Quality Division. December 31.

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EPA. 2004b. *User's Guide for the AERMOD Meteorological Processor (AERMET)*. EPA-454/B-03-001. Office of Air Quality Planning and Standards, Emissions Monitoring and Analysis Division. Research Triangle Park, North Carolina. November.

EPA. 2005. *Guideline on Air Quality Models (Revised)*. Title 40 Code of Federal Regulations, Part 51, Appendix W. Office of Air Quality Planning and Standards. Research Triangle Park, North Carolina.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

PERMIT TO CONSTRUCT APPLICATION

Revision 3
04/03/07

Please see instructions on page 2 before filling out the form.

DEQ USE ONLY
Date Received
Project Number
Payment / Fees Included? Yes ☐ No ☐
Check Number

COMPANY NAME, FACILITY NAME, AND FACILITY ID NUMBER

1. Company Name	K & T Steel Corporation		
2. Facility Name	K & T Steel Corporation	3. Facility ID No.	
4. Brief Project Description - One sentence or less	Air Quality Permit to Construct for K and T Steel facility		

PERMIT APPLICATION TYPE

5. ☐ New Facility ☐ New Source at Existing Facility ☒ Unpermitted Existing Source
☐ Modify Existing Source: Permit No.:____ Date Issued:____
☐ Required by Enforcement Action: Case No.:____

6. ☒ Minor PTC ☐ Major PTC

FORMS INCLUDED

Included	N/A	Forms	DEQ Verify
☒	☐	Form GI – Facility Information	☐
☒	☐	Form EU0 – Emissions Units General	☐
☐	☒	Form EU1 - Industrial Engine Information Please Specify number of forms attached: _____	☐
☐	☒	Form EU2 - Nonmetallic Mineral Processing Plants Please Specify number of forms attached: _____	☐
☒	☐	Form EU3 - Spray Paint Booth Information Please Specify number of forms attached: _____	☐
☐	☒	Form EU4 - Cooling Tower Information Please Specify number of forms attached: _____	☐
☐	☒	Form EU5 – Boiler Information Please Specify number of forms attached: _____	☐
☐	☒	Form HMAP – Hot Mix Asphalt Plant Please Specify number of forms attached: _____	☐
☐	☒	Form CBP - Concrete Batch Plant Please Specify number of forms attached: _____	☐
☐	☒	Form BCE - Baghouses Control Equipment	☐
☒	☐	Form SCE - Scrubbers Control Equipment	☐
☒	☐	Forms EI-CP1 - EI-CP4 - Emissions Inventory– criteria pollutants (Excel workbook, all 4 worksheets)	☐
☒	☐	PP – Plot Plan	☐
☒	☐	Forms MI1 – MI4 – Modeling (Excel workbook, all 4 worksheets)	☐
☐	☒	Form FRA – Federal Regulation Applicability	☐

Instructions for Form CS

This form acts as a cover sheet for the Permit to Construct application, providing DEQ with basic information regarding the company and the proposed permitting action. This form helps DEQ efficiently determine whether the application is administratively complete. This form also provides the applicant with a list of forms available to aid the applicant to successfully submit a complete application.

Company Name, Facility Name, and Facility ID Number

1-3. Provide the name of your company, the name of the facility (if different than company name), and the facility identification (ID) number (Facility ID No.) in the boxes provided. The facility ID number is also known as the AIRS number or AIRS/AFS number (example: 095-00077). If you already have a permit, the facility ID number is located in the upper right hand corner of the cover page. The facility ID number must be provided unless your facility has not received one, in which case you may leave this box empty. **Use these same names and ID number on all forms.** This is useful in case any pages of the application are separated.

4. Provide a brief description of this permitting project in one sentence or less. Examples might be "Install/construct a new boiler" or "Increase the allowable process throughput." **This description will be used by DEQ as a unique identifier for this permitting project, in conjunction with the name(s) and ID number referenced in 1-3.** You will need to put this description, using the exact same words, on all other forms that are part of this project application. This is useful in case any pages of the application are separated.

Permit Application Type

5. Provide the reason you are submitting the permit application by checking the appropriate box (e.g., a new facility being constructed, a new source being constructed at an existing facility, an unpermitted existing source (as-built) applying for a permit for the first time, a permitted source to be modified, or the permit application is the result of an enforcement action, in which case provide the case number). If you are modifying an existing permitted source, provide the number and issue date of the most recent permit.

6. Indicate if the application is a minor permit to construct application or a major permit to construct application by checking the appropriate box (e.g., major PTC or minor PTC). If the permit to construct application is for a major new source or major modification, you must ensure that all necessary information required by IDAPA 58.01.01.202, and .204, or .205, as applicable, is provided.

Forms Included

Check the "Included" box for each form included in this permit to construct application. If there are multiples of a form for multiple units of that type, check the box and fill in the number of forms in the blank provided.

The "N/A" box should only be checked if the form is absolutely unnecessary to complete the application. Additional information may be requested.

When complete, submit all application forms and any required fees to:

Air Quality Program Office – Application Processing
Department of Environmental Quality
1410 N. Hilton
Boise, ID 83706-1255

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

PERMIT TO CONSTRUCT APPLICATION

Revision 3
03/26/07

Please see instructions on page 2 before filling out the form.

All information is required. If information is missing, the application will not be processed.

IDENTIFICATION	
1. Company Name	K & T Steel Corporation
2. Facility Name (if different than #1)	
3. Facility I.D. No.	
4. Brief Project Description:	Air Quality Permit to Construct for K and T Steel facility
FACILITY INFORMATION	
5. Owned/operated by: (√ if applicable)	☐ Federal government ☐ County government ☐ State government ☐ City government
6. Primary Facility Permit Contact Person/Title	Bill Koch, President
7. Telephone Number and Email Address	208-733-2554/bkoch@ktsteelcorp.com
8. Alternate Facility Contact Person/Title	John Neale, Sales Manager
9. Telephone Number and Email Address	208-733-2554/jneale@ktsteelcorp.com
10. Address to which permit should be sent	322 Diamond Avenue West
11. City/State/Zip	Twin Falls, ID 83303
12. Equipment Location Address (if different than #10)	
13. City/State/Zip	
14. Is the Equipment Portable?	☐ Yes ☒ No
15. SIC Code(s) and NAISC Code	Primary SIC: 3441 Secondary SIC (if any): N/A NAICS:
16. Brief Business Description and Principal Product	Fabrication of rebar, structural steel shapes, and tanks; associated coating of steel as neceessary.
17. Identify any adjacent or contiguous facility that this company owns and/or operates	None
PERMIT APPLICATION TYPE	
18. Specify Reason for Application	☐ New Facility ☐ New Source at Existing Facility ☒ Unpermitted Existing Source ☐ Modify Existing Source: Permit No.:____ Date Issued: ____ ☐ Permit Revision ☐ Required by Enforcement Action: Case No.:____
CERTIFICATION	
IN ACCORDANCE WITH IDAPA 58.01.01.123 (RULES FOR THE CONTROL OF AIR POLLUTION IN IDAHO), I CERTIFY BASED ON INFORMATION AND BELIEF FORMED AFTER REASONABLE INQUIRY, THE STATEMENTS AND INFORMATION IN THE DOCUMENT ARE TRUE, ACCURATE, AND COMPLETE.	
19. Responsible Official's Name/Title	William W. Koch President
20. RESPONSIBLE OFFICIAL SIGNATURE	William W. Koch Date: 11/11/08
21. ☒ Check here to indicate you would like to review a draft permit prior to final issuance.	

Instructions for Form GI

This form is used by DEQ to identify a company or facility, equipment locations, and personnel involved with the permit application. Additional information may be requested.

1 – 4. Please fill in the same company name, facility name (if different), facility ID number, and brief project description as on Form CS. This is useful in case any pages of the application are separated.

5. Indicate whether the facility is owned by a government entity.

6. Name of the primary person who should be contacted regarding this permit.

7. Telephone number and e-mail address of person listed in 6.

8. Name of the person who should be contacted if the person listed in 6 is not available.

9. Telephone number and e-mail address of person listed in 8.

10 - 11. Address to which DEQ should mail the permit.

12 - 13. Physical address at which the equipment is located (if different than 10).

14. If the equipment is portable (such as an asphalt plant), identify by marking "yes." If there are other locations where the portable equipment will be used, attach a Portable Equipment Relocation Form (PERF) to list those locations. An electronic copy of the PERF can be obtained from the DEQ website http://www.deq.idaho.gov/air/permits_forms/forms/ptc_relocation.pdf (or http://www.deq.idaho.gov/air/permits_forms/forms/ptc_relocation.doc for Word format). **Important note:** In addition to being submitted with this PTC application, a PERF must also be completed and filed at DEQ at least 10 days in advance of relocating any of the equipment covered in this application.

15. Provide the Standard Industrial Classification (SIC) code and the North American Industry Classification System (NAICS) code for your plant. NAICS codes can be found at http://www.census.gov/epcd/naics02/naicod02.htm. If a secondary SIC code is applicable, provide it also.

16. Briefly describe the primary activity and principal product of your business. If your plant includes more than one major activity, describe the one related with the permit application.

17. Please indicate if there are any other branches or divisions of this company located within 5 miles of the address provided in 12 above on this form.

18. Check the box which describes the type of permit application.

19 - 20. Fill in the certification section with a signature, name, title and date. The certification must be signed by a responsible official (as defined in IDAPA 58.01.01.006) in accordance with IDAPA 58.01.01.123.

21. If you would like to review a draft before the final permit is issued, check this box.

Emissions Unit - General **Form EU0**

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

PERMIT TO CONSTRUCT APPLICATION

Revision 3
03/27/07

Please see instructions on page 2 before filling out the form.

IDENTIFICATION		
Company Name: K & T Steel Corporation	Facility Name: K and T Steel Corporation	Facility ID No:
Brief Project Description:	Air quality permit to construct for K and T Steel facility	

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION	
1. Emissions Unit (EU) Name:	GRIT BLASTING EMISSIONS
2. EU ID Number:	003
3. EU Type:	☐ New Source ☒ Unpermitted Existing Source ☐ Modification to a Permitted Source -- Previous Permit #: Date Issued:
4. Manufacturer:	SUPER TITAN BLASTING NOZZLE
5. Model:	PART # VNPL-7
6. Maximum Capacity:	25 LB/HOUR; 30,000 LB/YEAR
7. Date of Construction:	APRIL 2002
8. Date of Modification (if any)	N/A
9. Is this a Controlled Emission Unit?	☐ No ☒ Yes If Yes, complete the following section. If No, go to line 18.

EMISSIONS CONTROL EQUIPMENT						
10. Control Equipment Name and ID:	VENTURI SCRUBBER					
11. Date of Installation:	APRIL 2002	12. Date of Modification (if any):	N/A			
13. Manufacturer and Model Number:	DEVANSCO CAB					
14. ID(s) of Emission Unit Controlled:	002					
15. Is operating schedule different than emission units(s) involved?	☐ Yes ☒ No					
16. Does the manufacturer guarantee the control efficiency of the control equipment?	☒ Yes ☐ No (If Yes, attach and label manufacturer guarantee)					

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency	80%					

17. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency. See Appendix C

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)	
18. Actual Operation	APROXIMATELY 5 HOURS PER DAY DURING WORK HOURS
19. Maximum Operation	17 HOURS PER DAY

REQUESTED LIMITS	
20. Are you requesting any permit limits?	☒ Yes ☐ No (If Yes, check all that apply below)
☐ Operation Hour Limit(s):	
☐ Production Limit(s):	
☒ Material Usage Limit(s):	25 LB/HOUR; 30,000 LB/YEAR
☐ Limits Based on Stack Testing	Please attach all relevant stack testing summary reports
☐ Other:	
21. Rationale for Requesting the Limit(s):	PROCESS LIMITATIONS (MODELED USING THESE LIMITS)

Instructions for Form EU0

This form provides DEQ with information about an emissions unit. An emissions unit is the equipment or process that generates emissions of regulated air pollutant(s). This form is used by the permit writer to become familiar with the emissions unit (EU). This form is also used by DEQ to identify the control equipment and the emission point (stack or vent) used for the emission unit(s) proposed in this permit application. This form also asks for supporting documents to verify stated control efficiencies and details about the emission point. Additional information may be requested.

Please put the same company name, facility name (if different), facility ID number, and brief project description as on Form CS in the boxes provided. This is useful in case any pages of the application get separated.

1. Provide the name of the emissions unit (EU), such as "Union boiler," etc. Use the exact same name for this EU throughout all the application forms. A separate EU0 form is required for each emissions unit.
2. Provide the identification (ID) number of the EU. It can be any unique identifier you choose; however, this ID number should be unique to this EU and should be used consistently throughout this application and all other air quality permit applications (e.g., operating permit application) to identify this EU.
3. Indicate the type of EU by checking the appropriate box (e.g., a new source to be constructed, an unpermitted existing source (as-built) applying for the first time, or an existing permitted source to be modified). If the EU is being modified, indicate on the form the most recent permit issued for the EU.
4. Provide the manufacturer's name for the EU. If the EU is custom-designed or homemade, indicate so.
5. Provide the model number of the EU. If the EU is custom-designed or homemade, indicate so.
6. Provide the maximum capacity of the EU. For example, a boiler's capacity may be in MMBtu/hr in terms of heat input of natural gas; an assembly line capacity may be in parts produced per day. Capacity should be based on a rated nameplate or as stated in the manufacturer's literature.
7. The date of construction is the month, day, and year in which construction or modification was commenced.

   Definitions:

   Construction fabrication, erection, or installation of an affected facility.

   Commenced an owner or operator has undertaken a continuous program of construction or modification or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or modification.

   Modification any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted to the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) to the atmosphere not previously emitted.
8. If the EU has been or will be modified, provide the month, day, and year of the most recent or future modification as defined in IDAPA 58.01.01.006.55.
9. Indicate if emissions from the EU are controlled by air pollution control equipment. If the answer is yes, complete the next section. If the answer is no, go to line 18.
10. Provide the name of the air pollution control equipment (e.g., wet scrubber) and the control equipment's identification number. This identification number should be unique to this air pollution control equipment and should be used consistently throughout this and all other air quality permit applications (e.g., operating permit application) to identify this air pollution control equipment.

11. Provide the date the air pollution control equipment was installed.
12. If the air pollution control equipment has been modified, provide the date of the modification.
13. Provide the name of the manufacturer and the model number for the air pollution control equipment.
14. If this air pollution control equipment controls emissions from more than this EU, provide the identification number(s) of the other EU(s).
15. Indicate if this air pollution control equipment operates on a schedule different from the EU(s) it controls.
16. Indicate if the air pollution control manufacturer guarantees the control efficiency of the control equipment. If the answer is yes, attach the manufacturer's guarantee and label it with the air pollution control equipment identification number. Indicate the control efficiency for the target pollutant(s).
17. If the control efficiency of the air pollution control equipment is not guaranteed, attach the design specifications and any performance data to support the control efficiency stated in part 16. Label the supporting documentation with the air pollution control equipment identification number.
18. Provide the projected actual operating schedule for the emission unit in hours/day, hours/year, or other.
19. Provide the maximum operating schedule for the emission unit in hours/day, hours/year, or other.
20. If you are requesting to have limits placed on this EU, mark "Yes." Then, check the applicable requested limit(s) and provide the limit(s). For example, production limits may be in terms of parts produced per year, material usage limits may be in gallons per day.
21. Please provide the reason you are requesting limits, if any. This helps DEQ and the applicant determine whether the limits are necessary, and if they will accomplish the desired purpose. Provide supporting documentation (calculations, modeling assessment, regulatory review, etc.) for each limit requested.

Emissions Unit - General **Form EU0**

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

PERMIT TO CONSTRUCT APPLICATION

Revision 3
03/27/07

Please see instructions on page 2 before filling out the form.

IDENTIFICATION		
Company Name: K & T Steel Corporation	Facility Name: K & T Steel Corporation	Facility ID No:
Brief Project Description:	Air quality permit to construct for K and T Steel facility	

EMISSIONS UNIT (PROCESS) IDENTIFICATION & DESCRIPTION	
1. Emissions Unit (EU) Name:	PAINT BOOTH EMISSIONS
2. EU ID Number:	001/002
3. EU Type:	☐ New Source ☒ Unpermitted Existing Source ☐ Modification to a Permitted Source -- Previous Permit #: Date Issued:
4. Manufacturer:	WAGNER PAINT GUN
5. Model:	G-10
6. Maximum Capacity:	8.3 GAL/HOUR (50 GAL/DAY, 6 HRS/DAY)
7. Date of Construction:	SEPTEMBER 2000
8. Date of Modification (if any)	N/A
9. Is this a Controlled Emission Unit?	☐ No ☒ Yes If Yes, complete the following section. If No, go to line 18.

EMISSIONS CONTROL EQUIPMENT			
10. Control Equipment Name and ID:	MAT filter < 180 degrees Fahrenheit		
11. Date of Installation:	9/2000	12. Date of Modification (if any):	N/A
13. Manufacturer and Model Number:	Purolator Facet Aire 3		
14. ID(s) of Emission Unit Controlled:	001		
15. Is operating schedule different than emission units(s) involved?	☐ Yes ☒ No		
16. Does the manufacturer guarantee the control efficiency of the control equipment?	☒ Yes ☐ No (If Yes, attach and label manufacturer guarantee)		

	Pollutant Controlled					
	PM	PM10	SO_2	NOx	VOC	CO
Control Efficiency	87%					

17. If manufacturer's data is not available, attach a separate sheet of paper to provide the control equipment design specifications and performance data to support the above mentioned control efficiency. See Appendix C

EMISSION UNIT OPERATING SCHEDULE (hours/day, hours/year, or other)	
18. Actual Operation	APROXIMATELY 6 HOURS PER DAY
19. Maximum Operation	

REQUESTED LIMITS	
20. Are you requesting any permit limits?	☒ Yes ☐ No (If Yes, check all that apply below)
☐ Operation Hour Limit(s):	
☐ Production Limit(s):	
☒ Material Usage Limit(s):	50 GALLONS PER DAY; 10,500 GALLONS PER YEAR
☐ Limits Based on Stack Testing	Please attach all relevant stack testing summary reports
☐ Other:	
21. Rationale for Requesting the Limit(s):	Process limitations (material usage limits used in dispersion modeling)

Instructions for Form EU0

This form provides DEQ with information about an emissions unit. An emissions unit is the equipment or process that generates emissions of regulated air pollutant(s). This form is used by the permit writer to become familiar with the emissions unit (EU). This form is also used by DEQ to identify the control equipment and the emission point (stack or vent) used for the emission unit(s) proposed in this permit application. This form also asks for supporting documents to verify stated control efficiencies and details about the emission point. Additional information may be requested.

Please put the same company name, facility name (if different), facility ID number, and brief project description as on Form CS in the boxes provided. This is useful in case any pages of the application get separated.

1. Provide the name of the emissions unit (EU), such as "Union boiler," etc. Use the exact same name for this EU throughout all the application forms. A separate EU0 form is required for each emissions unit.
2. Provide the identification (ID) number of the EU. It can be any unique identifier you choose; however, this ID number should be unique to this EU and should be used consistently throughout this application and all other air quality permit applications (e.g., operating permit application) to identify this EU.
3. Indicate the type of EU by checking the appropriate box (e.g., a new source to be constructed, an unpermitted existing source (as-built) applying for the first time, or an existing permitted source to be modified). If the EU is being modified, indicate on the form the most recent permit issued for the EU.
4. Provide the manufacturer's name for the EU. If the EU is custom-designed or homemade, indicate so.
5. Provide the model number of the EU. If the EU is custom-designed or homemade, indicate so.
6. Provide the maximum capacity of the EU. For example, a boiler's capacity may be in MMBtu/hr in terms of heat input of natural gas; an assembly line capacity may be in parts produced per day. Capacity should be based on a rated nameplate or as stated in the manufacturer's literature.
7. The date of construction is the month, day, and year in which construction or modification was commenced.

   Definitions:

   Construction fabrication, erection, or installation of an affected facility.

   Commenced an owner or operator has undertaken a continuous program of construction or modification or that an owner or operator has entered into a contractual obligation to undertake and complete, within a reasonable time, a continuous program of construction or modification.

   Modification any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted to the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) to the atmosphere not previously emitted.
8. If the EU has been or will be modified, provide the month, day, and year of the most recent or future modification as defined in IDAPA 58.01.01.006.55.
9. Indicate if emissions from the EU are controlled by air pollution control equipment. If the answer is yes, complete the next section. If the answer is no, go to line 18.
10. Provide the name of the air pollution control equipment (e.g., wet scrubber) and the control equipment's identification number. This identification number should be unique to this air pollution control equipment and should be used consistently throughout this and all other air quality permit applications (e.g., operating permit application) to identify this air pollution control equipment.

11. Provide the date the air pollution control equipment was installed.
12. If the air pollution control equipment has been modified, provide the date of the modification.
13. Provide the name of the manufacturer and the model number for the air pollution control equipment.
14. If this air pollution control equipment controls emissions from more than this EU, provide the identification number(s) of the other EU(s).
15. Indicate if this air pollution control equipment operates on a schedule different from the EU(s) it controls.
16. Indicate if the air pollution control manufacturer guarantees the control efficiency of the control equipment. If the answer is yes, attach the manufacturer's guarantee and label it with the air pollution control equipment identification number. Indicate the control efficiency for the target pollutant(s).
17. If the control efficiency of the air pollution control equipment is not guaranteed, attach the design specifications and any performance data to support the control efficiency stated in part 16. Label the supporting documentation with the air pollution control equipment identification number.
18. Provide the projected actual operating schedule for the emission unit in hours/day, hours/year, or other.
19. Provide the maximum operating schedule for the emission unit in hours/day, hours/year, or other.
20. If you are requesting to have limits placed on this EU, mark "Yes." Then, check the applicable requested limit(s) and provide the limit(s). For example, production limits may be in terms of parts produced per year, material usage limits may be in gallons per day.
21. Please provide the reason you are requesting limits, if any. This helps DEQ and the applicant determine whether the limits are necessary, and if they will accomplish the desired purpose. Provide supporting documentation (calculations, modeling assessment, regulatory review, etc.) for each limit requested.

Emissions Units - Spray Paint Booth Information **Form EU3**

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

PERMIT TO CONSTRUCT APPLICATION

Revision 3
03/27/07

Please see instructions on page 2 before filling out the form.

IDENTIFICATION		
Company Name: K & T Steel Corporation	Facility Name:	Facility ID No:
Brief Project Description:	Permit to Construct for steel fabrication and associated paint coating as necessary	

BOOTH INFORMATION

1. Booth Type: ☐ New Booth ☒ Unpermitted Existing Booth
☐ Modification to a Permitted Booth, Permit #: , Date Issued:

2. Construction Date:

SPRAY GUN DESCRIPTION AND SPECIFICATIONS

Gun No.	3. Manufacturer	4. Model	5. Type	6. Transfer Eff. %	7. Rated Capacity (gal/hr)
1	Wagner	G-10	HVLP	45	12.5
2					
3					
4					

Number of guns to be used simultaneously:

SPRAY MATERIAL DESCRIPTION AND SPECIFICATIONS

8. Type of Spray Material Used	9. Type of Material Coated	10. Max. Usage (gal/day)	11. Solid TAP/HAP Content (lb/gal)	12. VOC TAP/HAP Content (lb/gal)	13. MSDS Attached? (Y/N)
Primer and topcoat paints	Structural steel and steel tanks		See Emissions Inventory (App. D)	See Emissions Inventory (App. D)	Yes (App. B)

REQUEST FOR PERMIT LIMITATIONS

14. Are you requesting any permit limits? ☐ No ☒ Yes. If Yes, check all that apply below and fill in requested limit(s)

☐ Operation Hour Limits:	☐ Production Limits:
☒ Material Usage Limits: 10,500 gal/yr; 50 gal/day	☐ Other:

15. Rationale for Requesting the Limit(s): Process limitations

EMISSION CONTROL DEVICE (FILTER[b]) DESCRIPTION AND SPECIFICATIONS

Stack Served	16. Filter Manufacturer	17. Model	18. PM Control Efficiency(%)[a]	19. Dimension (Total Area, Thickness and Number of Filters)
Stack 1	Purolator	Facet Aire 3	87 (See App. C)	
Stack 2	Purolator	Facet Aire 3	87 (App. C)	
Stack 3				
Stack 4				

Notes: a. Provide either stack test data or vendor's documentation to support the control efficiency specified above.
b. Fill out and submit appropriate control equipment form(s) if this booth has a control device(s) other than a filter system.

BOOTH OPERATING SCHEDULE (indicate hours/day, hours/year, or other)

20. Actual Operation:	21. Maximum Operation:

Instructions for Form EU3

Please refer to IDAPA 58.01.01.220 for a list of the general exemption criteria for Permit to Construct exemptions.

Please fill in the same company name, facility name (if different), facility ID number, and brief project description as on Form CS. This is useful if application pages are separated.

USE ATTACHMENT IF ADDITIONAL SPACE IS REQUIRED.

Booth Information:

1. Check whether this booth is a new booth to be constructed, an unpermitted existing booth (as-built) applying for a permit for the first time, or a permitted source to be modified.
2. Please provide the date of construction of the booth in month/day/year in which construction or modification begins as defined in EU0 Form Instruction item 7.

Spray Gun Description and Specifications:

3. Specify manufacturer(s) of the spray gun(s) used in your booth.
4. Specify the model(s) of the spray gun(s).
5. Indicate the type of the gun(s). The type can be airless, HVLP, air atomization, electrostatic/air atomization, etc.
6. Indicate the transfer efficiency of the painting operation.
7. A rated capacity is the maximum spray rate, usually in unit of oz/min, gal/hour, etc.

Spray Material Description and Specifications (Use Attachment if Additional Space is Required):

8. Indicate all the coating materials used in this booth including enamel, lacquer, clean-up solvent, primer, etc.
9. Indicate all of the types of material that are being coated as being metal, wood, plastic, etc.
10. Indicate the maximum usage of the materials listed in Item 8 in gallons per day.
11. Indicate the maximum solid toxic air pollutant/hazardous air pollutant (TAP/HAP) content that is used, or expected to be used, in pounds per gallon as it is applied.
12. Indicate the maximum volatile organic chemicals (VOC) TAP/HAP content that is used, or expected to be used, in pounds per gallon as it is applied.
13. Material Safety Data Sheet (MSDS) for each painting material used in the booth should be attached with the application.

Request for Permit limitations:

14. If you wish to have permit limits placed on the paint booth, mark "Yes." Check each type of limit that applies to this emission unit and fill in the requested limit. For example, production limits may be in terms of parts produced per year, material usage limits may be in gallons per day.
15. Provide rationale for any requested limit(s). This helps the DEQ and the applicant determine whether the limits are necessary, and whether they will accomplish the desired purpose.

Emission Control Device (filter) Description and Specifications:

16. Provide the name of the filter manufacturer.
17. Provide the model of the filter according to manufacturer's literature.
18. Provide the control efficiency for particulate matter.
19. Provide the dimension of the filter in the total area and total thickness.

Booth Operation Schedule:

20. Provide operation schedule of the booth under a general condition.
21. Provide schedule for projected maximum operation.

DEQ AIR QUALITY PROGRAM
1410 N. Hilton, Boise, ID 83706
For assistance, call the
Air Permit Hotline – 1-877-5PERMIT

PERMIT TO CONSTRUCT APPLICATION

Revision 0
7/3/07

Please see instructions on page 2 before filling out the form.

IDENTIFICATION										
Company Name: K & T Steel Corporation				**Facility Name:**				**Facility ID No.:**		
Brief Project Description: Air Quality Permit to Construct Application for K & T Steel facility										
IDENTIFICATION				**SCRUBBER**						
1.	**2.**	**3.**	**4.**	**5.**	**6.**	**7.**	**8.**	**9**	**10.**	**11.**
Emission Unit	EU ID No.	CE ID No.	Stack ID No.	Manufacturer Name	Model No.	Efficiency (PM_{10}@70%, SO_2@50%, etc.)	Basis for Efficiency (i.e., guarantee, source test, etc.)	Design Scrubbing Liquid Flow (gpm)	Design Pressure Drop (in H_2O)	Design pH (for acid gas control)
Grit Blasting	**003**		**N/A**	**Devansco**	**Custom**	**PM @ 80%**	**Manufacturer Performance Test**	**5-15**	**6.8 - 50.0**	**N/A**

Describe the maintenance required to assure the scrubber operates as designed (i.e. frequency of inspection, nozzle inspection, nozzle cleaning, etc.). (Provide an attachment if necessary.) Routine maintenance of proper water level on scrubber unit.

Instructions for Form VSCE

This information is used by DEQ to identify the scrubber control equipment in this permit application.

Please fill in the same company name, facility name (if different), facility ID number, and brief project description as on Form CS. This is useful in case any pages of the application are separated.

Provide the following:

1. The name of the emissions unit, exactly the same as it appears on Form EU0.
2. The emissions unit ID No., exactly the same as it appears on Form EU0.
3. Control equipment ID No., exactly the same as it appears on Form EU0.
4. Stack ID No.
5. Name of the scrubber manufacturer.
6. Model number of the scrubber.
7. Give scrubber control efficiency and pollutant controlled (i.e., PM_{10}@70%, SO_2@50%, etc.). For particulate matter, give efficiency for PM_{10} and for total PM.
8. The basis for stated efficiency must be documented. Attach supporting documentation such as manufacturer guarantees, source tests, design calculations, or other means of substantiating control efficiency.
9. Give the design scrubbing media flowrate in gpm to achieve stated control efficiency.*
10. Give the design pressure drop in inches of water column to achieve stated control efficiency.*
11. For acid gas scrubbers, give the design scrubbing liquid pH.*

* These parameters will become operating standards in a permit.

IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY

1410 North Hilton
Boise, Idaho 83706-1253

RECEIPT

12/1/08
DATE

RECEIVED FROM Tetra Tech
for K+T Steel Corp

SOURCE
Cash ☐ Check ☒ Money Order ☐ No. _____

DESCRIPTION	AMOUNT OF PAYMENT
AQ Permit PTC	1000 00

RECEIVED BY _____ TOTAL RECEIVED 1000 00

PID	OBS	CA	SUB-OBJ	WP	BE

Nº 82913